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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,396	10/24/2003	Jeffrey P. Snover	MSI-1740US	2522
22801	7590	04/15/2009		
LEE & HAYES, PLLC 601 W. RIVERSIDE AVENUE SUITE 1400 SPOKANE, WA 99201			EXAMINER YIGDALL, MICHAEL J	
			ART UNIT	PAPER NUMBER
			2192	
			MAIL DATE	DELIVERY MODE
			04/15/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/693,396

**Applicant(s)**

SNOVER ET AL.

**Examiner**

Michael J. Yigdall

**Art Unit**

2192

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,6-15,17-23,25 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,6-15,17-23,25 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB08)  
Paper No(s)/Mail Date 01/29/2009
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 29, 2009 has been entered. Claims 1, 3, 6-15, 17-23, 25 and 27 are pending.

***Response to Amendment***

2. The rejection of claims 23 and 25-27 under 35 U.S.C. § 101 is withdrawn in view of Applicant's amendment.

***Response to Arguments***

3. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection set forth below.

***Claim Rejections under 35 U.S.C. § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 3, 6-15 and 17-22 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention.

With respect to claim 1 (currently amended), the claim is directed to a computer readable storage medium having computer-executable instructions, the instructions comprising several steps. As recited, however, it is not apparent how the instructions “comprise” the steps. Thus, the metes and bounds of the claimed invention are not clearly set forth. The examiner presumes that the recited instructions comprise instructions for performing the recited steps.

With respect to claims 3, 6, 7 (previously presented) and 8-14 (currently amended), the claims are dependent upon claim 1 and therefore are indefinite for at least the same reason(s) as noted above.

With respect to claim 15 (currently amended), the claim recites a step of executing the string in the interactive environment. However, there is insufficient antecedent basis for “the string” in the claim. The examiner presumes that the step should instead refer to “the script.”

With respect to claims 17-21 (previously presented) and 22 (original), the claims are dependent upon claim 15 and therefore are indefinite for at least the same reason(s) as noted above.

***Claim Rejections under 35 U.S.C. § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 3, 6-9, 11-15, 17, 19-23 and 25 are rejected under 35 U.S.C. § 102(b) as being anticipated by Abelson et al., “Structure and Interpretation of Computer Programs” (recorded on IDS dated 01/29/2009, “Abelson”).

With respect to claim 1 (currently amended), Abelson teaches a computer readable storage medium having computer-executable instructions (note that such a medium is inherent to the teachings of Abelson), the instructions comprising:

receiving a string in an interactive environment, the string including a plurality of pipelined cmdlets (see, for example, pages 11-13, section 1.1.4, which shows receiving a string such as “(square (square 3))” that includes a plurality of pipelined “square” cmdlets in an interactive interpreter environment);

identifying an attribution for each of the plurality of pipelined cmdlets within the string, each attribution to specify a constraint for an associated construct (see, for example, pages 11-13, section 1.1.4, which shows identifying attributions such as “3” and “(square 3)” to specify constraints for associated constructs);

identifying the associated construct of each attribution in the string (see, for example, pages 11-13, section 1.1.4, which shows identifying the associated “(\* x x)” constructs);

saving information that correlates each constraint with its associated construct as metadata that is associated with each construct (see, for example, pages 7-8, section 1.1.2, which shows saving such information); and

executing the string in the interactive environment (see, for example, pages 5-7, section 1.1.1, which shows executing the string), wherein executing the string includes:

executing a first cmdlet of the plurality of pipelined cmdlets by using metadata associated with a first construct to apply a first constraint to the first construct to produce output objects (see, for example, pages 13-16, section 1.1.5, which shows such execution of “(square 6)” and “(square 10)” to produce “36” and “100” as output);

providing the output objects to a second cmdlet of the plurality of pipelined cmdlets as input for a second construct (see, for example, pages 13-16, section 1.1.5, which shows providing “36” and “100” as input to a “sum-of-squares” cmdlet); and

executing the second cmdlet by using metadata associated with the second construct to apply a second constraint to the second construct (see, for example, pages 13-16, section 1.1.5, which shows such execution of “(+ 36 100)”).

With respect to claim 3 (previously presented), the rejection of claim 1 is incorporated, and Abelson further teaches that the construct comprises a variable, a structure, a function, or a script (see, for example, pages 11-13, section 1.1.4, which shows that the construct comprises a procedure or function).

With respect to claim 6 (previously presented), the rejection of claim 1 is incorporated, and Abelson further teaches that the string comprises a command string entered in a command line environment (see, for example, pages 7-8, section 1.1.2, which shows that the string is entered in a command-line interpreter environment).

With respect to claim 7 (previously presented), the rejection of claim 1 is incorporated, and Abelson further teaches that the string comprises a portion of a script (see, for example, pages 11-13, section 1.1.4, which shows that the string comprises part of a script).

With respect to claim 8 (currently amended), the rejection of claim 1 is incorporated, and Abelson further teaches that identifying the attribution for each of the plurality of pipelined cmdlets comprises identifying a plurality of attributions associated with each construct (see, for example, pages 9-11, section 1.1.3, which shows identifying a plurality of attributions associated with each construct).

With respect to claim 9 (currently amended), the rejection of claim 1 is incorporated, and Abelson further teaches that at least one of the identified attributions specifies a type for its associated construct (see, for example, pages 52-56, section 1.3.1, which shows such attributions).

With respect to claim 11 (currently amended), the rejection of claim 1 is incorporated, and Abelson further teaches that at least one of the identified attributions specifies applying a predicate directive to the string that is operative to determine whether processing of the string continues (see, for example, pages 16-20, section 1.1.6, which shows such predicate directives).

With respect to claim 12 (currently amended), the rejection of claim 1 is incorporated, and Abelson further teaches that at least one of the identified attributions specifies applying a parsing directive that is operative to direct a manner for obtaining the construct (see, for example, pages 5-7, section 1.1.1, which shows such parsing directives).

With respect to claim 13 (currently amended), the rejection of claim 1 is incorporated, and Abelson further teaches that at least one of the identified attributions specifies a data generation directive that is operative to generate a set of information that is stored in its

associated construct (see, for example, pages 11-13, section 1.1.4, which shows such data generation directives).

With respect to claim 14 (currently amended), the rejection of claim 1 is incorporated, and Abelson further teaches that at least one of the identified attributions specifies a data validation directive that is operative to determine whether a value assigned to its associated construct meets a criterion specified by the at least one attribution (see, for example, pages 16-20, section 1.1.6, which shows such data validation directives).

With respect to claim 15 (currently amended), Abelson teaches a method for handling constraints specified within an interactive environment (see, for example, pages 5-7, section 1.1.1), the method comprising:

identifying a pre-defined begin symbol and end symbol within a script entered in an interactive environment (see, for example, pages 11-13, section 1.1.4, which shows identifying begin and end symbols such as “(” and “)” in “(define (square x) (\* x x))” within a script entered in an interactive interpreter environment);

identifying a constraint between the begin symbol and the end symbol (see, for example, pages 11-13, section 1.1.4, which shows identifying a constraint such as “\* x x” between the begin and end symbols);

identifying a construct following the end symbol (see, for example, pages 11-13, section 1.1.4, which shows identifying a construct such as “(square 21)” following the end symbol);

saving information that correlates the constraint with the construct as metadata that is associated with the construct (see, for example, pages 7-8, section 1.1.2, which shows saving such information); and

executing the string in the interactive environment (see, for example, pages 5-7, section 1.1.1, which shows executing the script), wherein executing the string includes:

using the saved information to apply the constraint to the construct when the construct is encountered during execution (see, for example, pages 13-16, section 1.1.5, which shows applying “\* x x” to “(square 6)” during execution); and

processing one or more built-in capabilities that include control structures via cmdlets (see, for example, pages 16-20, section 1.1.6, which shows such processing).

With respect to claim 17 and 19-21 (previously presented) the limitations recited in the claims are analogous to those recited in claims 11 and 12-14, respectively (see the rejection of claims 11 and 12-14 above).

With respect to claim 22 (original), the rejection of claim 15 is incorporated, and Abelson further teaches that the begin symbol comprises a left bracket and the end symbol comprises a right bracket (see, for example, pages 5-7, section 1.1.1).

With respect to claims 23 (currently amended) and 25 (previously presented), the claims are directed to a system that corresponds to the computer readable storage medium recited in claims 1 and 3, respectively (see the rejection of claims 1 and 3 above). Note that one or more processors and memory are inherent to the teachings of Abelson.

*Claim Rejections under 35 U.S.C. § 103*

8. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 10, 18 and 27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Abelson, as applied to claims 1, 15 and 23 above, respectively, in view of U.S. Pub. No. 2004/0153995 to Polonovski (already of record, "Polonovski").

With respect to claim 10 (currently amended), the rejection of claim 1 is incorporated. Abelson does not explicitly describe that at least one of the identified attributions specifies applying intellisense to its associated construct to auto-complete the construct.

Nonetheless, in an analogous art, Polonovski teaches identifying an attribution in a string that specifies applying intellisense to auto-complete an associated construct (see, for example, paragraphs [0064] and [0066]).

Therefore, as Polonovski suggests (see, for example, paragraph [0024]), it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Abelson such that at least one of the identified attributions specifies applying intellisense to its associated construct to auto-complete the construct.

With respect to claim 18 and 27 (previously presented), the limitations recited in the claims are analogous to those recited in claim 10 (see the rejection of claim 10 above).

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Yigdall whose telephone number is 571-272-3707. The examiner can normally be reached on Monday to Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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